WHAT IS CLAIMED IS:

1. A frequency-shift-keyed (FSK) receiver comprising:

demodulation circuitry capable of receiving an incoming FSK signal and generating therefrom a baseband signal comprising an amplitude modulated symbol stream of Logic 0 symbols and Logic 1 symbols having a data rate, R;

auto-correlation circuitry capable of sampling said baseband signal S times during each symbol and generating an auto-correlation function comprising a sample stream of N-bit samples having a data rate, SxR, and having positive-going peaks approximately coinciding with the center of the Logic 1 symbol in a 010 sequence in said baseband signal and negative-going peaks approximately coinciding with the center of the Logic 0 symbols in a 101 sequence in said baseband signal; and

decision circuitry capable of receiving said auto-correlation function and deciding a logic level of a first symbol as a function of: 1) a comparison of a signal level of a center sample of said first symbol and a mean signal level of said auto-correlation function; and 2) a comparison of said signal level of said center sample of said first symbol and a signal level of a center sample of a second symbol preceding said first symbol.

2. The FSK receiver as set forth in Claim 1 wherein said decision circuitry further decides said logic level of said first symbol as a function of a comparison of said signal level of said center sample of said first symbol and a signal level of a center sample of a third symbol following said first symbol.

3. The FSK receiver as set forth in Claim 2 wherein said decision circuitry is further capable of deciding a logic level of said second symbol as a function of: 1) a comparison of said signal level of said center sample of said second symbol and said mean signal level of said auto-correlation function and 2) a comparison of said signal level of said center sample of said second symbol and a signal level of a center sample of a fourth symbol preceding said second symbol.

4. The FSK receiver as set forth in Claim 3 wherein said decision circuitry further decides said logic level of said second symbol as a function of a comparison of said signal level of said center sample of said second symbol and said signal level of said center sample of said first symbol.

5. The FSK receiver as set forth in Claim 4 wherein said decision circuitry is further capable of deciding a logic level of said third symbol as a function of: 1) a comparison of said signal level of said center sample of said third symbol and said mean signal level of said auto-correlation function and 2) a comparison of said signal level of said center sample of said third symbol and a signal level of a center sample of a fifth symbol following said third symbol.

6. The FSK receiver as set forth in Claim 5 wherein said decision circuitry further decides said logic level of said third symbol as a function of a comparison of said signal level of said center sample of said third symbol and said signal level of said center sample of said first symbol.

7. The FSK receiver as set forth in Claim 6 wherein said decision circuitry, in response to a determination that said second symbol, said first symbol, and said third symbol comprise a 010 sequence of symbols, compares said signal level of said center sample of said first symbol with 1) a signal level of a preceding sample of said first symbol and 2) a signal level of a following sample of said first symbol to thereby determine a location of a first positive-going peak of said auto-correlation function corresponding to said first symbol.

8. The FSK receiver as set forth in Claim 7 wherein said decision circuitry, in response to a determination that said first positive-going peak does not coincide with said center sample of said first symbol, is capable of one of advancing or delaying sampling of said baseband signal by at least one sample time period.

9. The FSK receiver as set forth in Claim 6 wherein said decision circuitry, in response to a determination that said second symbol, said first symbol, and said third symbol comprise a 101 sequence of symbols, compares said signal level of said center sample of said first symbol with 1) a signal level of a preceding sample of said first symbol and 2) a signal level of a following sample of said first symbol to thereby determine a location of a first negative-going peak of said auto-correlation function corresponding to said first symbol.

10. The FSK receiver as set forth in Claim 9 wherein said decision circuitry, in response to a determination that said first negative-going peak does not coincide with said center sample of said first symbol, is capable of one of advancing or delaying sampling of said baseband signal by at least one sample time period.

11. A method of processing a received frequency-shift-keyed (FSK) signal comprising the steps of:

demodulating the incoming FSK signal and generating therefrom a baseband signal comprising an amplitude modulated symbol stream of Logic 0 symbols and Logic 1 symbols having a data rate, R;

sampling the baseband signal S times during each symbol and generating an auto-correlation function comprising a sample stream of N-bit samples having a data rate, SxR, and having positive-going peaks approximately coinciding with the center of the Logic 1 symbol in a 010 sequence in the baseband signal and negative-going peaks approximately coinciding with the center of the Logic 0 symbols in a 101 sequence in the baseband signal;

deciding a logic level of a first symbol as a function of: 1) a comparison of a signal level of a center sample of the first symbol and a mean signal level of the auto-correlation function; and 2) a comparison of the signal level of the center sample of the first symbol and a signal level of a center sample of a second symbol preceding the first symbol.

12. The method of processing the received FSK signal as set forth in Claim 11 wherein the step of deciding the logic level of the first symbol further comprises the sub-step of deciding the logic level of the first symbol as a function of a comparison of the signal level of the center sample of the first symbol and a signal level of a center sample of a third symbol following the first symbol.

13. The method of processing the received FSK signal as set forth in Claim 12 further comprising the step of deciding a logic level of the second symbol as a function of: 1) a comparison of the signal level of the center sample of the second symbol and the mean signal level of the auto-correlation function and 2) a comparison of the signal level of the center sample of the second symbol and a signal level of a center sample of a fourth symbol preceding the second symbol.

14. The method of processing the received FSK signal as set forth in Claim 13 wherein the step of deciding the logic level of the second symbol further comprises the sub-step of deciding the logic level of the second symbol as a function of a comparison of the signal level of the center sample of the second symbol and the signal level of the center sample of the first symbol.

15. The method of processing the received FSK signal as set forth in Claim 14 further comprising the step of deciding a logic level of the third symbol as a function of: 1) a comparison of the signal level of the center sample of the third symbol and the mean signal level of the auto-correlation function and 2) a comparison of the signal level of the center sample of the third symbol and a signal level of a center sample of a fifth symbol following the third symbol.

16. The method of processing the received FSK signal as set forth in Claim 15 wherein the step of deciding the logic level of the third symbol further comprises the step of deciding the logic level of the third symbol as a function of a comparison of the signal level of the center sample of the third symbol and the signal level of the center sample of the first symbol.

17. The method of processing the received FSK signal as set forth in Claim 16 further comprising the steps of:

in response to a determination that the second symbol, the first symbol, and the third symbol comprise a 010 sequence of symbols, comparing the signal level of the center sample of the first symbol with 1) a signal level of a preceding sample of the first symbol; and 2) a signal level of a following sample of the first symbol; and

determining a location of a first positive-going peak of the auto-correlation function corresponding to the first symbol.

18. The method of processing the received FSK signal as set forth in Claim 17 further comprising, in response to a determination that the first positive-going peak does not coincide with the center sample of the first symbol, the step of one of:

advancing sampling of the baseband signal by at least one sample time period; and

delaying sampling of the baseband signal by at least one sample time period.

19. The method of processing the received FSK signal as set forth in Claim 16 further comprising the steps of:

in response to a determination that the second symbol, the first symbol, and the third symbol comprise a 101 sequence of symbols, comparing the signal level of the center sample of the first symbol with 1) a signal level of a preceding sample of the first symbol and 2) a signal level of a following sample of the first symbol; and

determining a location of a first negative-going peak of the auto-correlation function corresponding to the first symbol.

20. The method of processing the received FSK signal as set forth in Claim 19 further comprising, in response to a determination that the first negative-going peak does not coincide with the center sample of the first symbol, the step of one of:

advancing sampling of the baseband signal by at least one sample time period; and

delaying sampling of the baseband signal by at least one sample time period.